REMARKS

In the Action, claims 1, 2 and 4-35 are withdrawn from consideration as being directed to the non-elected invention, and claim 3 is rejected. In response, claim 3 is amended and new claims 36 and 37 are added.

Specifically, claim 3 is amended to recite that the solid concentration of the resulting hydropolymer formed in the polymerization step is less than 75 weight %. Support for this limitation is found on page 25 of the specification. New claims 36 and 37 depend from claim 3 to further define the solid content of the resulting hydropolymer. Claim 36 recites the solid content of the hydropolymer being 73 weight % or less, and claim 37 recites the solid content of the hydropolymer being 60 weight % to 73 weight %. Support for claims 36 and 37 is found on page 25 of the specification. Accordingly, these claims and amendments are supported by the specification as originally filed.

In view of these amendments and the following comments, reconsideration and allowance are requested.

Rejection of Claim 3 over U.S. Patent No. 4,155,888 to Mooth

Claim 3 is rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,155,888 to Mooth. Mooth is cited as allegedly disclosing each of the claimed features.

Mooth does not disclose or suggest the combination of the claimed process steps as recited in amended claim 3. As disclosed in the specification, the present invention is directed to a process for producing a water-absorbent resin having improved water-absorption capacity, a low extractable content and a low residual monomer content compared to the prior processes. The process of claim 3 is a solution polymerization process where the initial polymerization temperature is not lower than 50 °C and the polymerization time is shorter than 3 minutes to

produce a hydropolymer having a solid component concentration of less than 75 weight %. In the present invention, a water-absorbent resin having excellent properties is obtained by controlling the solid content of the polymer of less than 75 weight %, in spite of a high polymerization initiation temperature (not lower than 50 °C) and a short polymerization time (shorter than 3 minutes). As noted on page 6, lines 12-16, the solid component concentration of the conventional hydropolymers are difficult to handle and difficult to reduce the particle size for use as water-absorbing agents.

Mooth is directed to a water-absorbent starch product prepared by the simultaneous drying and polymerization of the monomer solution. Thus, the resulting polymer of the process disclosed by Mooth is a dried product. As disclosed in column 8, lines 3-7 of Mooth, the simultaneous polymerizing and drying process is by extrusion, heat exchanging, rotating, calendering, spray drying, flash drying and drum drying processes. As disclosed on page 2, line 10 through page 3, line 11 of the present specification, the simultaneous polymerizing and drying process such as that disclosed in Mooth results in dried products that have high extractable contents for their respective absorption capacities. Thus, Mooth is an example of the prior art discussed in the background of the invention. The present invention is an improvement on these prior processes.

Mooth also does not disclose or suggest a polymerization process that results in a hydropolymer having a solid content of less than 75 weight % as recited in claim 3. The passage of Mooth referred to in the Action discloses the water-absorbent starch product containing less than 75 % by weight water. Since the resulting starch product of Mooth contains less than 25 weight % water, the resulting starch product inherently has a solid content greater than 75 weight %. Mooth does not disclose a resulting product having 75 % solid content as suggested in the Action.

In view of the above comments and these amendments, Mooth does not disclose or suggest the process as recited in claim 3. Mooth does not disclose the combination of a polymerization initial temperature of not lower than 50 °C, a polymerization time shorter than 3 minutes and a resulting hydropolymer having a solid concentration of less than 75 weight %. Accordingly, claim 3 is not anticipated by Mooth.

Claims 36 and 37 are also not anticipated by Mooth and are allowable over the art of record. Mooth clearly fails to disclose a resulting hydropolymer having a solid content of 73 weight % or less as recited in claim 36 and fails to disclose a hydropolymer having a solid content of 60 weight % to 73 weight % as recited in claim 37. Accordingly, claims 36 and 37 are in condition for allowance.

In view of the above comments, claims 3, 36 and 37 are allowable over Mooth.

Rejection Over U.S. Patent No. 6,417,425 to Whitmore et al.

Claim 3 is rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,417,425 to Whitmore et al. Whitmore et al. is cited for disclosing a process for producing water-absorbent resins by polymerizing at temperatures of up to 150 °C for up to 10 minutes resulting in products with densities of 0.04 to about 0.20 grams per cubic centimeter. The Action has not identified where in Whitmore et al. the process discloses a polymerization initial temperature of not lower than 50 °C with a polymerization time shorter than 3 minutes or a resulting hydropolymer having a solid concentration less than 75 weight % as recited in amended claim 3. The passage in column 2 of Whitmore et al. as cited in the Action simply discloses a sprayable blend but does not disclose any of the claimed features of the present invention. The passage in column 3 of Whitmore et al. discloses carboxyl group-containing monomers but does not disclose the claimed process steps. Column 14 of Whitmore et al.

discloses a very broad range of polymerization temperatures and times but does not disclose the combination of the claimed initial polymerization temperature and polymerization time. No where does Whitmore et al. disclose the resulting hydropolymer of the claimed invention having the claimed solid content.

Whitmore et al. is relevant to the extent that a process is disclosed for producing super absorbent polymer particles from a sprayable mixture that can include monomers. In contrast to the present invention, Whitmore et al. is directed to a process for producing water-absorbent articles where a mixture of previously prepared water-absorbent particles are mixed in a solution containing a monomer and an initiator where the resulting solution forms a sprayable mixture. The sprayable mixture is then sprayed onto a fibrous substrate and thereafter polymerized.

Whitmore et al. does not disclose the claimed process step of polymerizing an aqueous solution of monomers at an initial temperature of not less than 50 °C. Whitmore et al. clearly fails to disclose a process of producing a hydropolymer having a solid component concentration of less than 75 weight % as recited in amended claim 3. Whitmore et al. discloses polymerizing and curing the resulting sprayable mixture that has been sprayed onto a fibrous substrate at temperatures as low as 20 °C. As disclosed in Whitmore et al., the polymerization time is dependent on the reaction temperature such that the reaction time of Whitmore et al. at the disclosed lower temperatures is clearly outside the claimed reaction time. Whitmore et al. disclose the claimed process of polymerizing the aqueous solution of the monomer as in the present invention. Whitmore et al. also fails to disclose the polymerization process for producing the claimed hydropolymer having a solid component concentration of less than 75 weight % as claimed. Accordingly, claim 3 is not anticipated by Whitmore et al.

The Action refers to the product density of Whitmore et al. as being from about 0.04 to about 0.20 grams per cubic centimeter. It is unclear how this is relevant to the claimed solid

concentration of the resulting hydropolymer of the present invention. Furthermore, it is clear from Whitmore et al. that the densities referred to are the densities of the fibrous web containing hydrophilic fibers. Thus, the density of the fibrous web containing the hydrophilic fibers has no relation to the claimed invention.

Claims 36 and 37 depend from claim 3 to further define the solid content of the resulting hydropolymer. Whitmore et al. does not disclose a hydropolymer having a solid content of 73 weight % or less as in claim 36 or a hydropolymer having a solid content of 60 weight % to 73 weight % as in claim 37. Accordingly, claims 36 and 37 are not anticipated by Whitmore et al. and are in condition for allowance.

In view of these amendments and the above comments, reconsideration and allowance are requested.

Respectfully submitted,

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